

REMARKS

The Examiner has withdrawn claims 3, 4, 7, 8, 11 and 12 from consideration and those claims have been cancelled. Claims 1, 2, 5, 6, 9, 10 and 17- 19 have been rejected. Applicants have amended Claims 1, 5, 9 and 19, and added new claims 20-22. Claim 19 was amended to address a minor typographical error. Thus, claims 1, 2, 5, 6, 9, 10 and 17 - 22 are pending. Favorable reconsideration is respectfully requested in light of the following Remarks.

I. Objections to the Drawings/Specification and Rejections pursuant to 35 USC §112

The Examiner objected to the amendment of the claims to include the limitation of “uninterrupted circumferential bottom surface.” The limitation has been removed from all of the independent claims. Therefore, it is respectfully submitted that the various objections and rejections addressing the added language have been addressed.

Independent claims 1, 5, and 9 have been amended to recite that the spring seat flange has an uninterrupted outer periphery defined between an upper surface and a bottom surface. Moreover, the claims as amended recite that the at least one protrusion is spaced inwardly from the outer periphery and extends axially downwardly therefrom. Support for the amendments is found, for example, in Figures 2 and 3, where protrusion 44 is spaced inwardly from the outer periphery of the flange while the outer periphery is uninterrupted. The specification explicitly calls out an upper surface 50 to flange 40 (e.g., paragraph [0019]) and a bottom surface 46 to flange 40 (e.g., paragraph [0022]). Moreover, flange 40 is recited as being formed “at the largest diameter section 28 of the retainer” and as shown in the figures, the flange is defined between the indicated inner periphery and an outermost diameter defined by an outer periphery. Thus, it is respectfully submitted that no new matter has been added.

Newly added dependent claims 20 through 22 include the limitation of the entire flange being unbroken between said upper surface and the lowermost axial extent of said protrusion. Support for this limitation can be found, for example in Figures 1 through 3, and 5 through 6, which show the flange without any openings between the inner periphery and the outer periphery. As recited in paragraph [0022], “. . . flange 40 includes a radially extending

body 42 having a bottom surface 46 that includes an axially protruding projection or bump 44.” Thus, once again, it is respectfully submitted that no new matter has been added.

II. Claim Rejections - 35 USC § 102

Claims 1, 2, and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,119,645 to Heshner (“Heshner”). The rejection is respectfully traversed.

To anticipate a claim, the reference must teach every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”¹ “The identical invention must be shown in as complete detail as is contained in the ... claim.”² Regarding Claims 1, 2 and 17, Heshner discloses “a cut in the flange forming two opposing free edges, said first free edge being bent in a generally longitudinal first direction to form a first tab for engaging the surface of the engine head, said second free edge being bent in a generally longitudinal second direction to form a second tab for engaging at least one coil of a valve spring.” See, for example, column 5, lines 27 - 33.

The Heshner patent is owned by the same assignee as the present invention. Heshner discloses a flange seat that includes a radial cut 60 in the flange. Using the radial cut, two opposing free edges 64, 66 are then formed. (Col. 3, lines 42 - 46). One of the free edges is selectively received within a void 76 cast into an upper surface of the engine head 24. (Col. 3, line 67 - Col. 4, line 1).

As noted above, each of the independent claims, namely claims 1, 5 and 9, have been amended to recite that the flange has an uninterrupted outer periphery defined between an upper surface and a bottom surface and that the bottom protrusion includes at least one protrusion spaced radially inwardly from the outer periphery and extending axially downwardly therefrom. Thus, the claimed invention provides a continuous positive, mechanical anchor for resisting torque applied to the spring seat flange via rotation induced by mechanical engine vibrations.

¹ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

² *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

In contrast, Heshner teaches directly away from the claimed invention by disclosing “a cut in the flange” that extends radially inwardly from the outer periphery that may: (1) undesirably deform the two opposing free edges under torque loads particularly induced by engine vibrations; (2) result in the free end vibrating out of the void 76 subjecting the valve assembly to undesired rotation and the resulting scouring or other damage to the surface 34 as discussed in [0020]; and (3) allow the spring to vibrate away from the free edge designed to prevent undesired rotation of the valve assembly. There is neither an uninterrupted outer periphery nor a protrusion that is spaced radially inwardly from the outer periphery.

In view of the amendments to the independent claims, it is respectfully submitted that each of the dependent claims is also in condition for allowance. However, the claims include additional limitations that define over Heshner. For example, claim 20 includes the limitation that entire flange is unbroken between said upper surface and the lowermost axial extent of said protrusion. Once again, Heshner teaches away from this limitation by requiring a radial cut 60.

In view of the amendments to claim 1 and the advantages the claimed invention provide over the teachings of Heshner, it is respectfully submitted that claim 1 and the claims that depend from claim 1 are in condition for allowance. Withdrawal of the rejection is respectfully requested.

III. Claim Rejections – 35 USC § 103

The Office Action rejects Claims 5, 6, 9, 10, 18 and 19 under 35 U.S.C. §103(a) as being unpatentable over Heshner as applied to claims 14 and 17, and further in view of DeBolt (US Patent Number 4,470,383). The rejections are respectfully traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim

limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.³

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.⁴ "In determining whether the invention as a whole would have been obvious under section 103, we must first delineate the invention as a whole. In delineating the invention as a whole, we look not only to the subject matter which is literally recited in the claim in question . . . but also those properties of the subject matter that are inherent in the subject matter and are disclosed in the specification . . . Just as we look to a chemical and its properties when we examine the obviousness of a composition of matter claim, it is this invention as a whole, and not some part of it, which must be obvious under section 103."⁵

As noted above, each of the independent claims has been amended to include the same amendments as claim 1. As a result of the amendments made, each of the claims is patentably distinct from Heshner for the reasons discussed above. The specifications and claims of Heshner and DeBolt do not recite or contemplate a spring seat flange having an uninterrupted outer periphery defined between a top surface and a bottom surface, and wherein there is at least one protrusion spaced radially inwardly from the outer periphery and extending axially downwardly therefrom. Similarly, the limitations of claims 20 through 22 are the same, with claim 21 depending from independent claim 5 and claim 22 depending from independent claim 9

With respect to the use of DeBolt, DeBolt does not teach "depressions to be formed on various surfaces" as the Office Action suggests. The Office Action asserts that "DeBolt discloses a similar anti-rotation valve stem seal that has a protrusion (40) on the flange of the spring retainer." See Office Action page 7. In fact, DeBolt does not disclose a flange but a "cup-shaped configuration . . . terminating in a plurality of spaced apart radial load carrying feet . . . with a semi-spherical embossment." See DeBolt, column 1, lines 53 - 59. DeBolt's semi-

³ *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

⁴ *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983)

⁵ *In re Antonie*, 559 F.2d 618, 195 USPQ 6,8 (CCPA 1977)

spherical embossments on load carrying feet are distinctly different than a flange including a radially extending uninterrupted circumferential bottom surface. DeBolt also discloses that the semi-spherical embossments form “peen type indentations in said support surface.” See DeBolt, column 6, lines 6 and 7. These indentations are designed to create a frictional surface for the embossments and not a structural depression for resisting the torque applied to the spring. This frictional surface does not prevent rotation of the valve spring induced by mechanical engine vibrations and therefore does not provide the positive mechanical anchor of the present invention.

For at least these reasons, Claims 5, 6, 9, 10 and 17 – 19, 21 and 22 are allowable over the applied art, taken singularly or in combination.

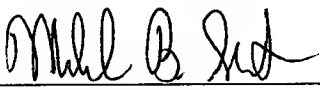
IV. Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

It is believed that any additional fees due with respect to this paper are identified in the accompanying transmittal. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 18-0013 in the name of Rader, Fishman & Grauer PLLC.

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Respectfully submitted,

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